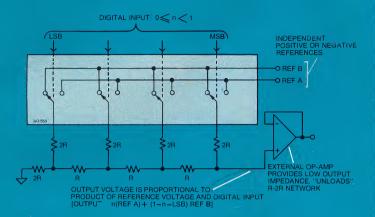
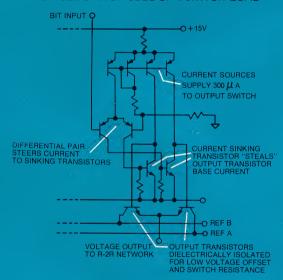
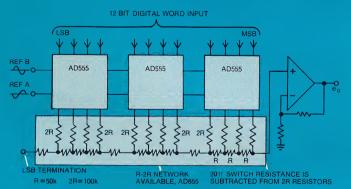
EQUIVALENT CIRCUIT AD555 QUAD SWITCH



SINGLE SWITCH CELL OF 4 SWITCH QUAD

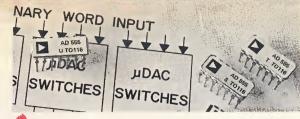


12-BIT MULTIPLYING D/A CONVERTER



221 FIFTH STREET · CAMBRIDGE, MASSACHUSETTS 02142





ДРАС 555

The World's First Monolithic IC Multiplying D/A Converter

- 4 SPDT SWITCHES ON A SINGLE CHIP
- 12-BIT ±½LSB ACCURACY
- FULL 4 QUADRANT MULTIPLICATION CAPABILITY
- ±5ppm/°C MAX TC, -55°C TO +125°C
- IDEAL FOR DIGITAL-TO-SYNCHRO APPLICATIONS
- MEETS MIL-STD 883... FLATPACK OR DIL

Second in a series of monolithic IC D/A converter circuits, the Analog Devices Model AD555 $\mu \rm DAC$ is intended for applications which require variable reference inputs. This feature permits full 4 quadrant multiplication of the analog and digital inputs, useful in many avionic applications such as digital-to-synchro conversion, digital gain control, etc.

The μ DAC AD555 is comprised of 4 dielectrically isolated voltage switches driven by logic input buffers compatible with all popular DTL or TTL logic. With the addition of an R-2R resistor network, each AD555 becomes a 4-bit D/A converter. All critical parameters are matched to permit three such μ DAC's to be simply interconnected to form a monotonic 12-bit converter with $\pm \frac{1}{2}$ LSB accuracy.

Proprietary design techniques yield switch performance similar to discrete-component solid state switches, but with inherently better tracking. Switch "ON" resistance is 20 ohms, matched to ± 5 ohms within each chip. Precision 12-bit thin film R-2R resistor networks, matched to switch ON resistance, are also available from Analog Devices. Voltage offset is 1mV ± 1 mV max. Switching delay time is typically $3.5\mu s$.

For free new application notes giving complete specifications and theory of operation of this new series of monolithic D/A converters, or to request evaluation samples phone your local sales office or Mr. Richard Ferrero collect on the ANALOG HOT LINE ... (617) 969-3661.

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